



Deconstructing media coverage of trastuzumab (Herceptin): an analysis of national newspaper coverage

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DECLARATIONS

Competing interests

AB and PMW were part of the team that produced *Hitting the Headlines* (2000–2008), a news analysis service which aims to assess the reliability of both journalists' reporting of health stories and the research on which they are based

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Summary

Objective To explore and critically describe the content and main narratives of UK national daily newspaper coverage of trastuzumab (Herceptin®).

Design We used the *NewsBank* database to search eight national daily newspapers, and their Sunday equivalents, retrospectively from 19 February 2006 back to the earliest mention of trastuzumab or Herceptin (19 May 1998).

Setting UK national newspapers.

Main outcome measures To be eligible for inclusion, articles had to contain at least three sentences about trastuzumab. Articles that focused on the financial performance of companies associated with the drug were excluded from the analysis. For each included article, we extracted bibliographic details and data, and independently rated the reporting slant towards trastuzumab and, where relevant, the reporting slant towards access to treatment.

Results We identified 361 articles that met the study inclusion criteria. The proprietary name of Herceptin was always used, with only eight articles mentioning the generic alternative. 294/361 included articles (81.5%) were rated as being positive towards trastuzumab, the remainder rated as neutral. Access to trastuzumab treatment was the main narrative running across included articles and reports of individual patients seeking treatment featured prominently throughout. In 208/361 of included articles (57%) the reporting slant towards access to trastuzumab treatment was rated as negative. 178/361 of included articles (49.3%) mentioned licensing, but rarely mentioned that licensing processes can only occur when the manufacturer applies for a licence. Only a minority of articles mentioned that the drug had to be licensed before it could be subject to the NICE approval process.

Conclusions Newspaper coverage of trastuzumab has been characterized by uncritical reporting. Journalists (and consumers) should be more questioning when confronted with information about new drugs and of the motives of those who seek to set the news agenda.

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Introduction

The news media are major sources of information about health issues for both the public and for health professionals, and can have an influence on decisions about treatment choices and medical care.¹ Sometimes the media make great claims for the latest medical breakthroughs and discoveries, some of which have yet to be fully developed or indeed licensed for use. These claims can have consequences for patients who may feel they are being denied access to a new therapy, and they may also create extra pressures on the doctor–patient relationship, especially if the clinician has limited or no access to the treatment in question.

There has been much discussion and debate about media reporting surrounding the introduction of the monoclonal antibody trastuzumab (Herceptin®, Roche, Basel, Switzerland) for early stage breast cancer.^{2–6} In particular, concerns have been raised about the role of media pressure in bringing about changes to the processes for assessing new and potentially life-saving medicines as undertaken by the National Institute for Health and Clinical Excellence.⁷

In the UK, daily national newspapers remain a major source of news for clinicians and consumers alike, with over 10 million newspapers sold every day. Although the role of media reporting has frequently been highlighted and questioned, no systematic and critical assessment of coverage surrounding trastuzumab has been undertaken. Given this, we set out to examine and critically describe the content and main narratives in UK national daily newspaper coverage of trastuzumab.

Methods

We retrospectively searched the *NewsBank* database (<http://infoweb.newsbank.com>) from 19 February 2006 back to the earliest mention of trastuzumab or Herceptin (19 May 1998). This date, 19 February 2006, was selected as it was the end of the week in which the first High Court of England and Wales ruling on the case between patient Anne Marie Rogers and Swindon Primary Care Trust occurred.⁸ It was also the week that an application for a licence for the use of trastuzumab in the treatment of early breast cancer was submitted to the European Medicines Agency (EMA) by Roche, the manufacturer.

The search aimed to identify relevant articles published in the major daily UK national newspapers and their Sunday equivalents. Based on

figures from the Audit Bureau of Circulations (www.abc.org.uk), the combined average daily net circulation of these newspapers is in excess of 9.5 million. Two daily national newspapers, the *Financial Times* (daily net circulation of around 133,000) and the *Daily Star* (daily net circulation of around 650,000), were not available via the *NewsBank* database and so were excluded from the study.

To be eligible for inclusion, articles had to contain at least three sentences about trastuzumab. Articles that focused on the financial performance of companies associated with the drug were excluded from the analysis. Decisions about the inclusion of articles were made by one researcher and checked by another, with recourse to a third where necessary.

Using Microsoft Access, we recorded bibliographic details (headline, date of publication, newspaper, type of article), whether or not trastuzumab was the primary focus of the article and whether the article was primarily about effectiveness or access to treatment for each included article. We then recorded the following pre-defined details: any mention of early or advanced breast cancer; any attempt to describe how trastuzumab works; any mention of HER2 (a protein growth factor receptor that can affect the growth of cancer cells, and the over-expression of which trastuzumab suppresses); any descriptions of who is eligible for treatment; any mention of research findings (citation of the source research was not necessary – statements such as ‘research has found’ or ‘trials have shown’ were included); any mention of potential side effects; any attempt to describe the licensing status / regulatory process; any stated costs of treatment; details of all people or organizations referred to; any mention of NICE or the manufacturer Roche; any criticisms or cautions regarding trastuzumab.

For each included article the overall reporting slant towards trastuzumab was independently rated (positive, negative or neutral) by one researcher and checked by another, with recourse to a third where necessary. For an article to be rated positive, it would have to consistently use terms such as ‘life-saving’ or ‘wonder drug’, and/or present supporting effectiveness data, and/or include enthusiastic testimonials without any balancing elements to set the drug in context. Negative articles would have to present the opposite. For an article to be rated neutral, it would have to avoid the use of emotive language, present any effectiveness data in context, and/or not promote a particular view.

Table 1**Number of included articles on trastuzumab (Herceptin) by newspaper and year of publication**

Newspaper	1998	2000	2001	2002	2003	2004	2005	2006	Total
The Sun		2	2	5			46	15	70
The Daily Mail			5	2	2	3	26	10	48
The Times	1	1	2	4	5	2	25	6	46
Daily Express					2	2	27	13	44
The Guardian				3			21	9	33
Daily Mirror			1	1	1		18	6	27
The Independent			1	2	2	1	15	3	24
Daily Telegraph				1	1		10	5	17
Observer		1	2		1		5	4	13
Express on Sunday			1		1	2	5	4	13
Sunday Times		2					5	2	9
Sunday Mirror							3	2	5
Mail on Sunday							3	1	4
News of the World				2			1	1	4
Sunday Telegraph				1	1		1		3
The People				1					1
Independent on Sunday									0
Total	1	6	14	22	16	10	211	81	361

For each included article that mentioned access to treatment, the reporting slant was also independently rated as positive (i.e. gaining access to trastuzumab), negative (i.e. being denied access, losing out because of postcode prescribing, etc.) or neutral (i.e. not making a judgement either way). An article could be rated as being positive towards trastuzumab but negative in terms of access to treatment. For example, if a news article reported that women were being denied access to an effective or life-saving treatment, the reporting slant would be rated negative in relation to access to treatment but positive towards trastuzumab itself.

Results

Our search identified 668 potentially relevant newspaper articles, of which 361 (54%) met our inclusion criteria. A breakdown of all included articles by newspaper and year is presented in Table 1. The Sun newspaper had the most coverage (approximately 20% of all articles), largely due to its 2005 *Cancer Drug Campaign* and petition urging the Health Secretary Patricia Hewitt to make trastuzumab available immediately to NHS patients with early-stage, HER2-positive breast cancer. Over half (211/361, 58.4%) of all articles included were published in 2005 and Box 1 describes the main events reported in the newspaper coverage over this year.

Table 2 shows the main characteristics of UK national daily newspaper coverage on trastuzumab. News stories accounted for around two thirds (233/361, 64.5%) of the included coverage.

Focus of article

Trastuzumab was the primary focus in three quarters of all included articles; the remainder were mainly concerned with access to new treatments (including trastuzumab) generally. The proprietary name of Herceptin was universally used, with only eight articles mentioning the generic name. Estimates of the percentage of women who are HER2 positive ranged from 5 to 35%; the median estimate was 25% (studies estimate 15–25%^{9,10}). Only six included articles mentioned issues relating to the effectiveness of screening for HER2-positive women.

Stage of cancer

Before 2005, all newspaper coverage is focused primarily on trastuzumab for advanced breast cancer; the drug's availability for early breast cancer is only explicitly mentioned once (24 July 2001). From 2005 onwards the focus shifts to trastuzumab for early breast cancer. All except five of the 43 articles that only mentioned advanced breast cancer were published before 2005.

Box 1:**Key events in UK national daily newspaper coverage of trastuzumab (Herceptin) in 2005**

April 2005	Roche announces interim analyses showing trastuzumab improves survival for women with early-stage, HER2-positive breast cancer
May 2005	Interim analysis from HERA and joint interim analysis from NCCTG and NASBP studies presented at the American Society of Clinical Oncology (ASCO) Annual Scientific Meeting
September 2005	The case of patient Barbara Clark refused treatment by Somerset Coast PCT
October 2005	Somerset Coast PCT agree to fund treatment for Barbara Clark Interim analysis from HERA and joint interim analysis from NCCTG and NASBP studies published in the <i>New England Journal of Medicine</i>
November 2005	The case of patient Elaine Barber refused treatment by North Stoke PCT. Intervention by Health Secretary Patricia Hewitt leads to North Stoke PCT offering treatment on grounds of 'exceptional circumstances' <i>Lancet</i> raises concerns about the role of media and political pressure in bringing about changes to the NICE appraisal process
December 2005	Solicitors Irwin Mitchell, acting on behalf of patient Anne-Marie Rogers, launch first legal challenge against Swindon PCT

Research

Fewer than half of the articles made any mention of research (173/361, 47.9%). Of those that did, the majority appeared in 2005 (111/173, 64.2%). This was largely due to repeated newspaper reporting of an interim analysis from the HERA (HERceptin Adjuvant) trial and a joint interim analysis of the National Surgical Adjuvant Breast and Bowel Project (NASBP) and North Central Cancer Treatment Group (NCCTG) trials. These interim analyses were announced to the media in April by Roche, presented at the American Society of Clinical Oncology Annual Scientific Meeting in May and were published in the *New England Journal of Medicine* in October.^{11,12} Of the 111 articles published in 2005, 69 reported that trastuzumab 'halves' the chances of recurrence if used for early stage breast cancer. Only one of all the included articles (*Express on Sunday*, 19 February 2006) reported the estimate of risk reduction in absolute terms.

Side effects

Of the 51 articles mentioning side effects, 22 mentioned that there was an increased risk of heart problems, eight mentioned that trastuzumab had fewer side effects than existing treatments, three stated that there were no side effects and one stated that women had died whilst taking the drug. The remainder stated either that the side effects were minimal or that the safety implications were still being assessed. The earliest mention of side effects occurred in 2000.

Access to treatment

Estimates of the cost of one year of treatment on the NHS ranged from £5,000 to £40,000 (median £20,000). Half of all estimates were between £19,500 and £22,000. According to NICE,¹³ the average cost per person of the thrice-weekly regimen is £24,600 (excluding VAT) and the average cost of the once-weekly regimen is £28,000 (excluding VAT). The licensing status of trastuzumab was mentioned in around half of all included articles (178/361, 49.3%), and most stated that the drug had a licence for use in advanced but not early stage breast cancer. Thirty three of these 178 articles correctly stated that the drug had to be licensed before being subject to the NICE approval process. Only 19 of the 170 articles that mentioned licensing before Roche announced that it had applied for a licence on 17 February 2006¹⁴ stated that the company had yet to apply for a licence for early stage breast cancer. Two articles stated that the company had not yet collected the safety data needed to apply for a licence for use in early-stage breast cancer, whilst one other stated that responsibility for the delay in licensing for early-stage lay largely with the manufacturer.

Named patients were mentioned in two thirds of all included articles; the earliest reference to a patient was made in January 2000 (see Box 2 for details of the main high-profile patients). Barbara Clark was the patient most frequently referred to (89 articles) followed by Anne Marie Rogers (58 articles) and Elaine Barber (31 articles). Dorothy Griffiths, a patient and founder of 'Women Fighting for Herceptin', was mentioned

Table 2

Characteristics of UK national daily newspaper coverage on trastuzumab (Herceptin) (19 May 1998 to 19 February 2006)

	Number (%) of news stories mentioning item		
	Broadsheet*	Tabloid†	Total
<i>Type of article</i>			
News	93 (64)	140 (65)	233 (65)
Feature	40 (28)	57 (26)	97 (27)
Editorial	4 (3)	8 (4)	12 (3)
Letter to editor	8 (5)	11 (5)	19 (5)
Total	145 (100)	216 (100)	361 (100)
<i>Focus of article</i>			
Trastuzumab primary focus of article	100 (69)	168 (78)	268 (74)
Mentions generic name trastuzumab	5 (3)	3 (1)	8 (2)
Attempt to explain how drug works	37 (25)	25 (12)	62 (17)
Mentions term HER2 positive	82 (57)	82 (38)	164 (45)
Mentions who is eligible	24 (17)	18 (8)	42 (12)
Estimate of No. or % HER2 positive	44 (30)	39 (18)	83 (23)
<i>Stage of breast cancer</i>			
Mentions advanced only	20 (14)	23 (11)	43 (12)
Mentions early only	31 (21)	31 (14)	62 (17)
Mentions early and advanced	51 (35)	69 (33)	123 (34)
Doesn't mention either	43 (30)	75 (42)	133 (37)
<i>Research</i>			
Any mention of research	81 (56)	92 (43)	173 (48)
Explicit mention of trials	20 (14)	24 (11)	44 (12)
Use of relative risk	48 (33)	42 (19)	90 (25)
Use of absolute risk	0 (0)	1 (<1)	1 (<1)
<i>Side effects</i>			
Mentions potential side effects	21 (14)	30 (14)	51 (14)
Mentions potential heart problems	10 (7)	12 (5)	22 (6)
Fewer side effects than existing therapies	4 (3)	4 (2)	8 (2)
No side effects	1 (<1)	2 (<1)	3 (<1)
<i>Licensing process</i>			
Licensing mentioned	86 (59)	92 (43)	178 (49)
Licensed for advanced only**	48 (33)	55 (25)	103 (29)
Roche yet to apply for licence for early††	15 (10)	3 (1)	18 (5)
<i>NICE</i>			
NICE mentioned	60 (41)	58 (27)	118 (33)
Drug needs licence before NICE approval	24 (16)	9 (4)	33 (9)
<i>Access to treatment</i>			
Mentions trastuzumab treatment costs	81 (56)	130 (60)	211 (58)
Mentions access to treatment generally	129 (89)	198 (92)	327 (91)
Mentions access to trastuzumab specifically	107 (74)	171 (79)	278 (77)
Access to trastuzumab limited/ denied	68 (47)	140 (65)	208 (58)
Named breast cancer patients	88 (61)	147 (68)	235 (65)
* <i>Daily Telegraph, Guardian, Independent, Times</i> plus Sunday equivalents.			
† <i>Daily Express, Daily Mail, Daily Mirror, Sun</i> plus Sunday equivalents.			
** Trastuzumab was licensed for use in advanced breast cancer in 2000 and received NICE approval in 2002.			
†† Roche applied for a licence for early breast cancer on 18 February 2006.			

in 12 articles. Cancer charities were mentioned in 20% of all included articles (74/361), with CancerBacup being the charity most frequently referred to (33 articles). Roche, the manufac-

turer, were named in 70 articles. The Secretary of State for Health, Patricia Hewitt, was the most frequently mentioned politician (29 articles).

Box 2:**High profile patients featuring in UK national daily newspaper coverage on trastuzumab (Herceptin)**

Elaine Barber	Was initially refused the treatment by North Stoke PCT but after the intervention of the Health Secretary Patricia Hewitt was subsequently offered treatment because of her 'exceptional circumstances'. Represented by the solicitors Irwin Mitchell.
Barbara Clark	Originally refused the drug by Somerset Coast PCT, the former nurse told reporters she would sell her house to buy the drug herself and threatened to take her case to the European Court of Human Rights. The PCT, having reviewed her personal circumstances, subsequently agreed to fund treatment.
Dorothy Griffiths	When first diagnosed with advanced cancer, trastuzumab was not available on the NHS. She embarked on a letter-writing campaign to politicians, the press and local health managers that eventually turned into a nationwide campaign. Eventually the hospital itself (University Hospital of North Staffordshire NHS Trust) decided to pay for her treatment. Founded 'Women Fighting For Herceptin'.
Anne Marie Rogers	Launched the first legal challenge after Swindon PCT refused treatment on the grounds that the safety of trastuzumab for early stage breast cancer had yet to be confirmed. Was finally successful in an appeal to the High Court which found that the PCT policy of only funding such drugs where a patient presents an exceptional case for treatment was irrational and so unlawful. Represented by the solicitors Irwin Mitchell.

Reporting slant

Four out of five (294/361, 81.4%) included articles were rated as having a positive reporting slant towards trastuzumab, the remainder being rated as neutral. Nine out of ten (327/361, 90.6%) included articles made some reference to access to treatment and in 208 of these articles the reporting slant was rated as negative, with a further 74 rated as neutral. The 45 articles where access to treatment was rated as positive, reflected occasions where a court had ruled in favour of women, or where primary care trusts had opted to prescribe either on the grounds of 'individual exceptionality' or so as to avoid long and costly legal actions. In around half of all articles (184/361, 51%), the reporting slant towards trastuzumab was rated as positive but the slant towards access to treatment was rated as negative. Twenty three articles (6%) were rated as neutral for both reporting slants.

Discussion**Statement of principal findings**

There has been much discussion and debate surrounding the role of media influence in the introduction of trastuzumab for early breast cancer.²⁻⁶ This paper presents the first systematic and critical assessment of national newspaper coverage about trastuzumab since the drug first came to prominence. The main narrative running throughout the coverage is that women are being denied access to a potentially life-saving treatment principally on the grounds of cost.

Strengths and weaknesses of the study

Our study has focused exclusively on one sector of the media. Widespread coverage has also occurred in other media outlets, including local newspapers, television, radio and the internet. Given the breadth and depth of the national newspaper coverage, we feel it unlikely that any major reporting themes will have been missed by our study. In addition, our analysis has focused on a potentially life-saving treatment for breast cancer, a disease with dramatic advocacy and currency in the public consciousness. Because of this, we recognize that debates surrounding new technologies in other disease areas are unlikely to generate as much coverage as those for breast cancer do. However, recent UK newspaper coverage surrounding the availability of drugs for Alzheimer's disease, age related macular degeneration and colon and lung cancer all suggest that the nature of coverage presented in our analysis is not the exclusive preserve of more 'high profile' diseases and conditions.

Meaning of the study

New drugs by their very nature are incomplete products, as full information about their safety, effectiveness and impact on costs are not yet available. Additionally, the constraints of newspaper reporting are well documented,^{15,16} so it is naive to expect a comprehensive and detailed analysis of the effectiveness of a new technology. However, previous research has suggested that journalists tend to focus strongly on the positive aspects of a

health technology during its early stages.^{17,18} This appears to be borne out in this instance, as the coverage is overwhelmingly positive and uncritical towards trastuzumab, with many articles opting to use phrases like 'wonder drug' and 'magic bullet' to describe the effects. There were articles by both tabloid and broadsheet newspapers that did attempt to provide a comprehensive and detailed analysis (using non-emotive language and discussing how the drug works, patient eligibility, the research evidence and potential adverse effects) but these were the exception rather than the rule. It is worth noting that enthusiastic support for what is 'new' is not the sole preserve of newspapers and can often easily be seen in other media outlets and among the medical and scientific communities.

Our analysis also suggests that there appears to be a lack of media understanding of the licensing process for a new drug and the role of NICE. Criticism of the length of time taken by the NICE approval process for both advanced and then early disease was evident throughout the study time frame. Only a minority of articles correctly stated that the drug had to be licensed first before it could be subject to the NICE approval process. Licensing processes were put in place to protect the public and to ensure safety and efficacy; the Norplant case¹⁷ illustrates that when adverse events do arise the press tend to make it headline news and ask how such a thing was allowed to happen. The fact that Roche had not submitted a marketing authorization application to the European Medicines Agency (EMA) for trastuzumab as adjuvant treatment for early-stage HER2-positive breast cancer was rarely mentioned in included articles and was mentioned in only one headline. Because of public pressure, the EMA took the rare step of issuing a news release in September 2005 to state that it had not received any application,¹⁹ though this was not referred to in the press coverage at the time.

The use of the emotive human interest story to illustrate and individualize news issues has long been a cornerstone of journalism generally and health reporting in particular. What is striking about this media coverage is the number of individual cases that have been represented in the news and that have helped to sustain the newsworthiness of the issue over such a long period of time. How these individuals have come to be the focus of such extensive news coverage is not immediately apparent in all instances. The solicitors Irwin Mitchell have been responsible for the high profile of some patients, most notably Elaine Barber and Anne Marie Rogers. In fact, their pro-

motional campaign 'Fighting for Herceptin' was short listed for the 2006 Chartered Institute of Public Relations Excellence Awards. Other patients may have been approached as part of a promotional campaign organized by the PR company Ketchum, who provide Roche with public relations support for its portfolio of oncology products in the UK.²⁰ The role played by the cancer charity CancerBacup in promoting access to trastuzumab and the fact that the charity receives sponsorship from the drug's manufacturer has been highlighted elsewhere.^{3,21} In this analysis, the charity actually features in less than 10% of included articles. As this is explicit coverage we have no way of knowing the extent of any influence behind the scenes in terms of promoting specific cases, or how much the charity was used as an information source.

It is crucial that journalists are critical of the motivations of those who bringing the stories to their attention. Direct-to-consumer advertising of prescription-only medicines is banned in most countries, appropriately so given that evidence suggests that it does have a negative impact on prescribing behaviour.²² Some journalists are very aware that health pages of newspapers can and are being used as a vehicle for product placement and that there is also some evidence of pharmaceutical companies targeting journalists as part of a marketing strategy to raise public awareness and stimulate demand.^{20,23} 'Pester power' is a concept normally associated with advertising aimed at children. The question to be asked in this context is, are we witnessing patient pester power or quasi direct-to-consumer advertising, where awareness is raised about new products and patients, charities and indeed clinicians then demand that these products be made available? If this is the case, we need to know more about who is driving this type of marketing, its actual impact on clinician and consumer behaviours and whether it is permitted within the existing regulatory code of practice.

Conclusions

Health resources are finite and so increasing public awareness and participation in debates about the effectiveness and cost effectiveness of new and existing therapies should be encouraged. The media can and do play a key role in shaping our understanding of medicine and science generally and about the ways by which decisions about effectiveness and cost effectiveness are made. But this is not to say that if our understanding is clouded it's all the fault of the media. On the contrary, we recognize that just like

the rest of us, the media are prone to external influences and that the actions of researchers, clinicians, the public, the government, industry and lobbyists all can and do influence the way news is reported. Improved standards for medical reporting have been advocated.^{24–26} The uncritical reporting identified in this study highlights the need for journalists when reporting on health to apply the same levels of inquiry and scepticism that are evident in other realms of journalism. If we are truly to have an informed debate about the introduction of new and potentially life-saving medicines, journalists, and ourselves as clinicians and consumers, need to be less enthusiastic and more questioning about what we read, and of the motives of those who seek to set the news agenda.

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